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Area Wage Survey

Worcester, Massachusetts, Metropolitan Area, April 1982

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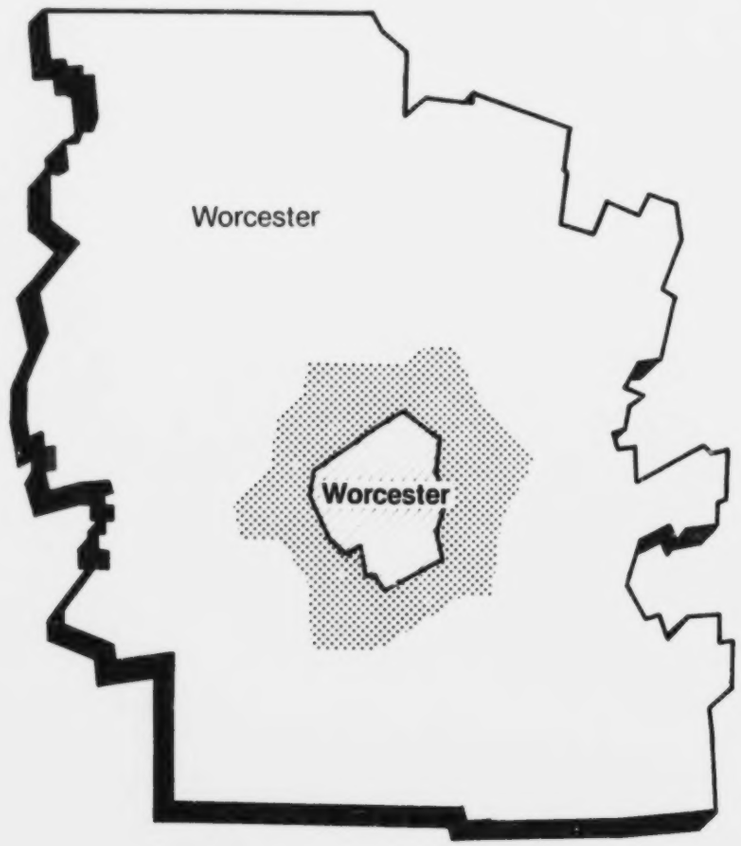
U.S. Department of Labor
Bureau of Labor Statistics

Bulletin 3015-16



Preface

This bulletin provides results of an April 1982 survey of occupational earnings in the Worcester, Mass., Standard Metropolitan Statistical Area. The survey was made as part of the Bureau of Labor Statistics' annual area wage survey program. It was conducted by the Bureau's regional office in Boston, Mass., under the general direction of Gordon E. Bowen, Assistant Regional Commissioner for Operations. The survey could not have been accomplished without the cooperation of the many firms whose wage and salary data provided the basis for the statistical information in this bulletin. The Bureau wishes to express sincere appreciation for the cooperation received.

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Note:

Regional Offices also have available five summary releases: *Occupational Earnings and Wage Trends in Metropolitan Areas* (3 parts); *Occupational Earnings in All Metropolitan Areas* (combined); and *Wage Differences Among Metropolitan Areas.*

A summary bulletin, *Area Wage Surveys, Selected Metropolitan Areas,* provides wage data for the 70 areas in the Area Wage Survey program. This annual bulletin may be purchased from the Superintendent of Documents or from BLS Regional Offices.

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Area Wage Survey

Worcester, Massachusetts, Metropolitan Area, April 1982

U.S. Department of Labor
Raymond J. Donovan, Secretary

Bureau of Labor Statistics
Janet L. Norwood,
Commissioner

July 1982

Bulletin 3015-16

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Introduction

This area is 1 of 72 in which the U.S. Department of Labor's Bureau of Labor Statistics conducts surveys of occupational earnings and related benefits. (See list of areas on inside back cover.) In each area, earnings data for selected occupations (A-series tables) are collected annually. Information on establishment practices and supplementary wage benefits (B-series tables) is obtained every third year. This report has no B-series tables.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

A-series tables

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. Where possible, occupations with related duties (e.g. accounting clerks and payroll clerks) are clustered to facilitate comparison. The occupations are defined in appendix B. For the 31 largest survey areas, tables A-12 through A-17 provide similar data for establishments employing 500 workers or more.

Table A-7 provides indexes and percent changes in average hourly earnings for office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

Tables A-8 through A-11 provide measures of pay relationships in establishments. These measures may differ considerably from the pay relationships of overall area averages published in tables A-1 through A-6. See appendix A for details.

Appendixes

Appendix A describes the methods and concepts used in the area wage survey program and provides information on the scope of the survey.

Appendix B provides job descriptions used by Bureau field representatives to classify workers by occupation.

Table A-1. Weekly earnings of office workers in Worcester, Mass., April 1982

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[1]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[2]	Median[2]	Middle range[2]	130 and under 140	140 – 150	150 – 160	160 – 170	170 – 180	180 – 190	190 – 200	200 – 210	210 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460
Secretaries	477	38.5	299.00	295.50	261.50– 332.50	–	–	–	–	–	–	8	4	12	32	57	81	54	68	64	46	24	9	9	2	7
Manufacturing	238	38.5	312.50	318.50	274.00– 353.50	–	–	–	–	–	–	–	2	–	7	17	43	28	41	36	33	12	9	7	1	2
Nonmanufacturing	239	38.5	285.00	276.00	247.00– 320.50	–	–	–	–	–	–	8	2	12	25	40	38	26	27	28	13	12	–	2	1	5
Secretaries I	36	39.0	239.50	243.00	216.00– 270.00	–	–	–	–	–	–	8	–	3	7	5	7	6	–	–	–	–	–	–	–	–
Secretaries II	113	39.0	278.00	270.50	251.00– 305.50	–	–	–	–	–	–	–	–	3	10	23	25	19	20	13	–	–	–	–	–	–
Manufacturing	58	38.5	257.50	286.50	261.50– 318.50	–	–	–	–	–	–	–	–	–	2	12	14	4	14	12	–	–	–	–	–	–
Secretaries III	146	38.5	291.50	295.50	257.50– 327.00	–	–	–	–	–	–	–	2	6	12	20	22	15	21	31	15	2	–	–	–	–
Manufacturing	33	39.5	311.00	314.00	285.00– 336.50	–	–	–	–	–	–	–	–	–	1	–	6	6	5	7	8	–	–	–	–	–
Nonmanufacturing	113	38.5	285.50	281.50	250.00– 325.50	–	–	–	–	–	–	–	2	6	11	20	16	9	16	24	7	2	–	–	–	–
Secretaries IV	138	38.5	320.50	318.50	261.50– 353.50	–	–	–	–	–	–	–	2	–	1	8	23	12	25	18	30	10	–	3	1	5
Nonmanufacturing	40	38.5	331.00	336.50	279.00– 369.00	–	–	–	–	–	–	–	–	–	1	5	6	2	4	2	6	9	–	–	–	5
Secretaries V	43	38.5	360.50	370.00	327.50– 395.00	–	–	–	–	–	–	–	–	–	2	1	3	2	2	2	1	12	9	6	1	2
Manufacturing	34	38.5	366.50	373.00	368.50– 395.00	–	–	–	–	–	–	–	–	–	2	1	–	2	1	1	1	11	9	4	–	2
Transcribing-machine typists	27	39.5	226.50	224.00	212.50– 243.50	–	–	–	–	2	4	–	–	4	7	4	3	3	–	–	–	–	–	–	–	–
Typists	80	39.5	201.50	202.00	168.00– 243.00	–	8	6	10	9	6	–	3	5	12	18	2	1	–	–	–	–	–	–	–	–
Manufacturing	25	39.5	231.50	235.00	219.00– 243.00	–	–	–	–	1	–	–	3	3	11	5	1	1	–	–	–	–	–	–	–	–
Nonmanufacturing	55	39.5	188.00	170.00	158.50– 232.50	–	8	6	10	8	6	–	–	2	1	13	1	–	–	–	–	–	–	–	–	–
Typists I	58	39.5	186.00	170.50	161.50– 217.50	–	8	6	10	9	6	–	–	5	9	5	–	–	–	–	–	–	–	–	–	–
File clerks	113	39.0	171.50	170.00	148.00– 181.00	12	16	10	9	30	16	6	2	3	1	5	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	93	39.0	163.50	167.00	146.00– 175.00	12	16	10	9	30	15	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
File clerks I	88	39.0	162.50	167.00	146.00– 175.50	12	16	10	8	25	14	2	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	85	39.0	161.50	167.00	146.00– 175.00	12	16	10	8	25	14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Messengers	50	39.0	181.50	177.00	167.00– 193.00	–	1	8	7	14	7	1	5	2	5	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	33	39.0	171.00	172.00	160.50– 177.00	–	1	7	6	13	4	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–
Switchboard operators	35	39.0	232.00	239.00	188.00– 266.00	–	–	–	2	6	4	–	1	–	5	6	5	2	4	–	–	–	–	–	–	–
Switchboard operator-receptionists	97	39.0	215.50	220.00	191.50– 236.00	–	–	4	2	6	12	4	8	11	31	15	2	2	–	–	–	–	–	–	–	–
Manufacturing	71	39.0	222.50	227.00	191.50– 244.50	–	–	–	2	3	11	3	3	7	23	15	2	2	–	–	–	–	–	–	–	–
Nonmanufacturing	26	39.0	197.50	200.00	175.00– 220.00	–	–	4	–	3	1	1	5	4	8	–	–	–	–	–	–	–	–	–	–	–
Order clerks	76	39.5	244.50	256.00	204.00– 284.00	–	1	1	8	–	5	2	4	7	6	4	16	11	9	–	–	2	–	–	–	–
Manufacturing	66	39.5	258.00	262.50	219.50– 285.00	–	–	–	4	–	3	–	4	7	6	4	16	11	9	–	–	2	–	–	–	–
Order clerks I	38	39.5	214.50	204.00	172.50– 222.50	–	1	1	8	–	5	2	4	3	6	2	1	2	1	–	–	2	–	–	–	–
Manufacturing	28	39.5	230.00	220.50	200.00– 250.50	–	–	–	4	–	3	–	4	3	6	2	1	2	1	–	–	2	–	–	–	–
Order clerks II	38	39.5	275.00	271.00	262.00– 285.00	–	–	–	–	–	–	–	–	4	–	2	15	9	8	–	–	–	–	–	–	–
Manufacturing	38	39.5	275.00	271.00	262.00– 285.00	–	–	–	–	–	–	–	–	4	–	2	15	9	8	–	–	–	–	–	–	–
Accounting clerks	851	38.5	244.50	245.00	209.00– 261.50	–	3	21	38	26	42	47	38	26	85	305	56	44	41	7	62	8	1	1	–	–
Manufacturing	236	39.0	254.50	245.50	225.00– 278.00	–	–	1	5	10	7	17	5	5	50	35	43	10	19	6	13	8	1	1	–	–
Nonmanufacturing	615	38.5	240.50	245.00	204.50– 254.00	–	3	20	33	16	35	30	33	21	35	270	13	34	22	1	49	–	–	–	–	–
Accounting clerks I	43	39.5	171.50	166.50	152.00– 189.00	–	3	12	10	3	5	4	4	2	–	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Worcester, Mass., April 1982 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[1]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[2]	Median[2]	Middle range[2]	130 and under 140	140 – 150	150 – 160	160 – 170	170 – 180	180 – 190	190 – 200	200 – 210	210 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460
Accounting clerks II	372	38.5	226.00	228.50	190.00– 249.00	–	–	9	28	23	33	34	23	7	52	90	24	26	22	1	–	–	–	–	–	–
Manufacturing	119	39.0	224.50	228.00	190.00– 249.00	–	–	1	3	8	7	17	5	1	41	14	19	3	–	–	–	–	–	–	–	–
Nonmanufacturing	253	38.5	227.00	240.00	184.00– 249.00	–	–	8	25	15	26	17	18	6	11	76	5	23	22	1	–	–	–	–	–	–
Accounting clerks III	252	38.5	270.00	254.00	234.50– 316.00	–	–	–	–	–	4	9	11	17	33	72	23	6	18	6	49	4	–	–	–	–
Manufacturing	80	39.0	274.50	264.00	241.50– 316.00	–	–	–	–	–	–	–	–	4	9	20	15	4	18	6	–	4	–	–	–	–
Nonmanufacturing	172	38.5	267.50	254.00	224.00– 351.50	–	–	–	–	–	4	9	11	13	24	52	8	2	–	–	49	–	–	–	–	–
Accounting clerks IV	33	39.0	326.50	353.50	276.50– 356.00	–	–	–	–	–	–	–	–	–	–	1	9	3	1	–	13	4	1	1	–	–
Manufacturing	33	39.0	326.50	353.50	276.50– 356.00	–	–	–	–	–	–	–	–	–	–	1	9	3	1	–	13	4	1	1	–	–
Payroll clerks	118	39.0	250.50	247.50	200.00– 292.00	–	–	4	–	8	12	3	8	3	12	18	16	10	9	3	6	6	–	–	–	–
Manufacturing	81	39.0	241.50	243.00	188.00– 291.50	–	–	4	–	8	12	–	4	1	10	11	10	9	6	3	–	3	–	–	–	–
Nonmanufacturing	37	39.0	270.50	260.00	238.00– 309.50	–	–	–	–	–	–	3	4	2	2	7	6	1	3	–	6	3	–	–	–	–
Key entry operators	181	39.5	244.50	248.50	218.00– 267.00	–	–	–	–	2	9	11	12	19	24	42	25	26	10	1	–	–	–	–	–	–
Manufacturing	82	39.5	250.50	250.50	223.00– 269.00	–	–	–	–	–	2	–	4	13	12	18	16	11	5	1	–	–	–	–	–	–
Nonmanufacturing	99	39.0	239.00	243.00	203.50– 266.50	–	–	–	–	2	7	11	8	6	12	24	9	15	5	–	–	–	–	–	–	–
Key entry operators I	63	39.5	222.00	218.00	201.50– 245.00	–	–	–	–	1	7	7	9	12	10	8	5	4	–	–	–	–	–	–	–	–
Manufacturing	33	39.5	233.00	229.00	219.00 - 248.50	–	–	–	–	–	–	–	2	10	8	8	5	–	–	–	–	–	–	–	–	–
Nonmanufacturing	30	39.0	209.50	196.00	190.00– 214.00	–	–	–	–	1	7	7	7	2	2	–	–	4	–	–	–	–	–	–	–	–
Key entry operators II	118	39.5	256.50	254.00	237.50– 286.50	–	–	–	–	1	2	4	3	7	14	34	20	22	10	1	–	–	–	–	–	–
Manufacturing	49	39.5	262.50	263.00	240.50– 291.50	–	–	–	–	–	2	–	2	3	4	10	11	11	5	1	–	–	–	–	–	–
Nonmanufacturing	69	39.0	252.00	250.00	231.00– 267.50	–	–	–	–	1	–	4	1	4	10	24	9	11	5	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Worcester, Mass., April 1982

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	160 and under 180	180 – 200	200 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 and over
Computer systems analysts (business)	128	39.0	512.00	518.50	458.50– 569.50	–	–	–	–	–	–	–	2	2	2	6	3	4	5	8	3	32	24	24	4	9
Manufacturing	68	39.0	533.00	535.50	490.50– 586.50	–	–	–	–	–	–	–	–	–	2	–	3	2	4	3	2	14	9	16	4	* 9
Nonmanufacturing	60	39.0	488.00	509.00	445.50– 540.00	–	–	–	–	–	–	–	2	2	–	6	–	2	1	5	1	18	15	8	–	–
Computer systems analysts (business) II	45	39.5	509.00	518.50	436.00– 581.50	–	–	–	–	–	–	–	–	–	–	6	–	2	4	7	–	4	6	10	4	3
Manufacturing	29	39.0	556.00	573.50	518.50– 596.50	–	–	–	–	–	–	–	–	–	–	–	–	–	3	2	–	3	4	10	4	* * 3
Computer systems analysts (business) III	61	39.0	546.50	535.50	509.00– 570.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	22	19	14	–	6
Nonmanufacturing	40	38.5	530.00	528.00	509.00– 552.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	17	14	8	–	–
Computer programmers (business)	170	39.0	410.50	414.00	345.50– 470.50	–	–	–	–	–	3	10	9	17	12	21	7	12	9	19	12	24	13	–	–	–
Manufacturing	35	39.0	427.50	458.00	337.00– 494.50	–	–	–	–	–	–	1	1	7	3	2	1	1	–	3	2	7	7	–	–	–
Nonmanufacturing	135	39.0	406.00	410.00	345.50– 461.00	–	–	–	–	–	3	9	8	10	9	19	6	11	9	16	10	17	6	–	–	–
Computer programmers (business) I	43	39.0	318.50	324.50	297.50– 336.00	–	–	–	–	–	3	10	8	13	6	3	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	32	39.0	315.00	310.00	294.50– 336.00	–	–	–	–	–	3	9	7	7	4	2	–	–	–	–	–	–	–	–	–	–
Computer programmers (business) II	64	39.0	398.50	385.50	366.00– 426.00	–	–	–	–	–	–	–	1	4	6	18	7	10	4	8	3	2	1	–	–	–
Nonmanufacturing	51	39.0	388.50	378.00	365.50– 414.00	–	–	–	–	–	–	–	1	3	5	17	6	9	4	5	1	–	–	–	–	–
Computer programmers (business) III	63	39.0	486.00	484.00	451.00– 518.50	–	–	–	–	–	–	–	–	–	–	–	–	2	5	11	9	22	14	–	–	–
Nonmanufacturing	52	39.0	479.50	472.50	446.50– 514.00	–	–	–	–	–	–	–	–	–	–	–	–	2	5	11	9	17	6	–	–	–
Computer operators	184	38.5	291.50	269.50	240.00– 315.00	2	10	10	19	32	33	15	20	5	–	5	4	7	18	4	–	–	–	–	–	–
Manufacturing	59	39.0	317.00	294.50	271.00– 382.50	–	–	–	5	5	14	6	9	3	–	2	3	7	1	4	–	–	–	–	–	–
Nonmanufacturing	125	38.5	279.50	259.00	233.00– 302.00	2	10	10	14	27	19	9	11	2	–	3	1	–	17	–	–	–	–	–	–	–
Computer operators I	68	38.5	244.00	244.00	223.00– 263.00	2	10	5	13	17	12	2	5	–	–	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	53	38.5	235.50	240.00	210.00– 259.00	2	10	5	9	16	9	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–
Computer operators II	96	38.5	307.00	289.50	259.00– 326.50	–	–	5	6	15	19	12	14	5	–	1	2	1	17	–	–	–	–	–	–	–
Manufacturing	31	39.5	296.00	277.50	271.00– 314.50	–	–	–	1	4	11	4	4	3	–	1	2	1	–	–	–	–	–	–	–	–
Nonmanufacturing	65	38.0	312.00	291.00	250.00– 428.00	–	–	5	5	11	7	8	10	2	–	–	–	–	17	–	–	–	–	–	–	–
Drafters	197	40.0	377.50	379.50	318.53– 430.00	–	–	–	2	5	8	18	18	10	9	37	14	20	13	10	14	19	–	–	–	–
Manufacturing	193	40.0	377.50	379.50	318.00– 433.00	–	–	–	2	5	8	18	18	9	9	36	13	20	12	10	14	19	–	–	–	–
Drafters III	49	40.0	313.00	304.50	297.00– 343.50	–	–	–	–	3	3	12	12	6	6	7	–	–	–	–	–	–	–	–	–	–
Manufacturing	48	40.0	313.00	304.00	298.00– 345.00	–	–	–	–	3	3	12	12	5	6	7	–	–	–	–	–	–	–	–	–	–
Drafters IV	81	40.0	380.50	379.50	370.00– 410.00	–	–	–	–	–	1	4	6	3	1	29	9	14	9	5	–	–	–	–	–	–
Manufacturing	81	40.0	380.50	379.50	370.00– 410.00	–	–	–	–	–	1	4	6	3	1	29	9	14	9	5	–	–	–	–	–	–
Electronics technicians	73	40.0	329.00	330.00	247.00– 419.50	–	–	9	8	2	2	5	8	7	4	5	–	7	13	2	1	–	–	–	–	–
Manufacturing	64	40.0	326.50	315.00	247.00– 411.50	–	–	7	8	2	2	5	8	5	4	5	–	2	13	2	1	–	–	–	–	–
Electronics technicians II	26	40.0	357.50	330.00	300.50– 423.50	–	–	–	–	–	2	5	5	2	–	–	–	1	10	–	1	–	–	–	–	–
Electronics technicians III	28	40.0	375.00	372.50	334.50– 419.50	–	–	–	–	–	–	–	3	5	4	5	–	6	3	2	–	–	–	–	–	–
Registered industrial nurses	31	39.5	349.50	350.00	309.00– 387.00	–	–	–	–	–	2	5	2	3	6	4	3	5	1	–	–	–	–	–	–	–

* Workers were distributed as follows: 7 at $640.00 to $680.00; and 2 at $680.00 to $720.00.
* * All workers were at $640.00 to $680.00.
Also see footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Worcester, Mass., April 1982

Sex,[1] occupation, and industry division	Number of workers	Average (mean[2])	
		Weekly hours[3] (standard)	Weekly earnings (in dollars)[3]
Office occupations – women			
Secretaries	476	38.5	299.00
Manufacturing	238	38.5	312.50
Nonmanufacturing	238	38.5	285.50
Secretaries I	36	39.0	239.50
Secretaries II	113	39.0	278.00
Manufacturing	58	38.5	287.50
Secretaries III	146	38.5	291.50
Manufacturing	33	39.5	311.00
Nonmanufacturing	113	38.5	285.50
Secretaries IV	138	38.5	320.50
Nonmanufacturing	40	38.5	331.00
Secretaries V	43	38.5	360.50
Manufacturing	34	38.5	366.50
Transcribing-machine typists	27	39.5	228.50
Typists	80	39.5	201.50
Manufacturing	25	39.5	231.50
Nonmanufacturing	55	39.5	188.00
Typists I	58	39.5	188.00
File clerks	112	39.0	171.00
Nonmanufacturing	92	39.0	163.00
File clerks I	88	39.0	162.50
Nonmanufacturing	85	39.0	161.50
Messengers	27	39.0	183.00
Switchboard operators	35	39.0	232.00
Switchboard operator-receptionists	97	39.0	215.50
Manufacturing	71	39.0	222.50
Nonmanufacturing	26	39.0	197.50
Order clerks	68	39.5	242.00
Manufacturing	58	39.5	254.50
Order clerks I	36	39.5	212.50
Manufacturing	26	39.5	228.50
Order clerks II	32	39.0	275.50
Manufacturing	32	39.0	275.50
Accounting clerks	827	38.5	243.00
Manufacturing	225	39.0	251.50
Nonmanufacturing	602	38.5	240.00
Accounting clerks I	43	39.5	171.50
Accounting clerks II	366	38.5	226.00
Manufacturing	118	39.0	224.50
Nonmanufacturing	248	38.0	226.50
Accounting clerks III	246	38.5	270.50
Manufacturing	78	39.0	274.50
Nonmanufacturing	168	38.5	268.50
Accounting clerks IV	25	39.0	320.50
Manufacturing	25	39.0	320.50
Payroll clerks	118	39.0	250.50
Manufacturing	81	39.0	241.50
Nonmanufacturing	37	39.0	270.50
Key entry operators	181	39.5	244.50
Manufacturing	82	39.5	250.50
Nonmanufacturing	99	39.0	239.00
Key entry operators I	63	39.5	222.00
Manufacturing	33	39.5	233.00
Nonmanufacturing	30	39.0	209.50
Key entry operators II	118	39.5	256.50
Manufacturing	49	39.5	262.50
Nonmanufacturing	69	39.0	252.00
Professional and technical occupations – men			
Computer systems analysts (business)	92	39.0	532.50
Manufacturing	53	39.0	544.00
Nonmanufacturing	39	39.0	517.50
Computer systems analysts (business) II	31	39.5	533.00
Computer systems analysts (business) III	51	39.0	552.50
Nonmanufacturing	31	38.5	535.50
Computer programmers (business)	99	39.0	423.00
Nonmanufacturing	78	39.0	413.00
Computer programmers (business) II	37	38.5	408.00
Nonmanufacturing	28	39.0	395.50
Computer programmers (business) III	40	39.0	494.00
Nonmanufacturing	31	38.5	486.50
Computer operators:			
Manufacturing	35	39.0	337.00
Computer operators II	59	38.5	319.50
Nonmanufacturing	42	37.5	325.50
Drafters	185	40.0	382.50
Manufacturing	181	40.0	382.50
Drafters III	43	40.0	315.00
Manufacturing	42	40.0	315.00
Drafters IV	78	40.0	381.50
Manufacturing	78	40.0	381.50
Electronics technicians	69	40.0	333.50
Manufacturing	60	40.0	331.50
Electronics technicians III	28	40.0	375.00
Professional and technical occupations – women			
Computer systems analysts (business)	36	39.0	459.00
Computer programmers (business)	61	39.0	386.00
Computer operators:			
Computer operators II	31	38.5	284.50
Registered industrial nurses	31	39.5	349.50

See footnotes at end of tables.

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in Worcester, Mass., April 1982

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[2]	Median[2]	Middle range[2]	5.00 and under 5.20	5.20 – 5.40	5.40 – 5.60	5.60 – 5.80	5.80 – 6.00	6.00 – 6.20	6.20 – 6.40	6.40 – 6.60	6.60 – 6.80	6.80 – 7.20	7.20 – 7.60	7.60 – 8.00	8.00 – 8.40	8.40 – 8.80	8.80 – 9.20	9.20 – 9.60	9.60 – 10.00	10.00 – 10.40	10.40 – 10.80	10.80 – 11.20	11.20 – 11.60	11.60 – 12.00	12.00 and over
Maintenance carpenters	36	9.24	9.68	8.75– 9.68	–	–	–	–	–	–	–	4	4	–	1	–	–	–	–	7	14	1	–	–	–	4	1
Manufacturing	35	9.20	9.68	8.26– 9.68	–	–	–	–	–	–	–	4	4	–	1	–	–	–	–	7	14	–	–	–	–	4	1
Maintenance electricians	117	9.74	9.83	9.48–10.59	–	–	–	–	–	–	–	1	5	5	2	–	3	7	3	25	11	21	23	–	–	3	8
Manufacturing	116	9.73	9.81	9.47–10.59	–	–	–	–	–	–	–	1	5	5	2	–	3	7	3	25	11	21	22	–	–	3	8
Maintenance machinists	138	9.60	9.54	8.84–10.64	–	–	–	–	–	–	–	–	4	6	4	7	4	6	21	19	12	3	37	8	–	–	7
Manufacturing	138	9.60	9.54	8.84–10.64	–	–	–	–	–	–	–	–	4	6	4	7	4	6	21	19	12	3	37	8	–	–	7
Maintenance mechanics (machinery)	282	9.34	9.68	8.47–10.16	–	–	–	–	–	5	3	6	6	13	18	8	12	4	9	40	60	40	48	2	–	–	8
Manufacturing	266	9.20	9.68	8.26–10.16	–	–	–	–	–	5	3	6	6	13	18	8	12	4	5	40	60	40	44	2	–	–	–
Maintenance mechanics (motor vehicles)	110	10.49	10.09	9.36–10.74	–	–	–	–	–	–	–	2	–	–	–	–	–	8	3	18	17	18	20	–	1	–	* 23
Manufacturing	32	9.94	10.09	9.82–10.09	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	7	18	3	–	–	–	2
Nonmanufacturing	78	10.71	10.16	9.36–13.38	–	–	–	–	–	–	–	–	–	–	–	–	–	8	3	18	10	–	17	–	1	–	21
Transportation and utilities	65	11.02	10.50	9.36–13.38	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	16	7	–	17	–	1	–	21
Maintenance pipefitters	63	10.28	10.59	10.12–10.59	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	9	3	11	29	3	–	–	5
Manufacturing	63	10.28	10.59	10.12–10.59	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	9	3	11	29	3	–	–	5
Maintenance trades helpers	26	6.20	6.10	5.75– 6.63	2	–	3	6	2	–	2	4	2	3	–	2	–	–	–	–	–	–	–	–	–	–	–
Machine-tool operators (toolroom)	53	8.17	8.13	7.50– 8.64	–	–	–	–	–	–	–	2	2	1	17	4	9	6	7	–	1	1	2	1	–	–	–
Manufacturing	53	8.17	8.13	7.50– 8.64	–	–	–	–	–	–	–	2	2	1	17	4	9	6	7	–	1	1	2	1	–	–	–
Tool and die makers	121	9.26	9.81	7.98– 9.84	–	–	–	–	–	–	–	–	–	–	13	18	11	4	2	1	47	2	5	16	1	1	–
Manufacturing	121	9.26	9.81	7.98– 9.84	–	–	–	–	–	–	–	–	–	–	13	18	11	4	2	1	47	2	5	16	1	1	–
Stationary engineers	30	9.91	10.02	9.34–10.34	–	–	–	–	–	–	–	–	–	–	–	4	–	–	1	4	–	16	–	4	–	1	–
Manufacturing	30	9.91	10.02	9.34–10.34	–	–	–	–	–	–	–	–	–	–	–	4	–	–	1	4	–	16	–	4	–	1	–
Boiler tenders	50	8.17	8.23	7.35– 9.18	–	–	–	–	7	–	3	–	1	–	7	–	11	6	2	1	10	–	–	2	–	–	–
Manufacturing	50	8.17	8.23	7.35– 9.18	–	–	–	–	7	–	3	–	1	–	7	–	11	6	2	1	10	–	–	2	–	–	–

* Workers were distributed as follows: 2 at $12.00 to $12.40; and 21 at $13.20 to $13.60.

Also see footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in Worcester, Mass., April 1982

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[4]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[2]	Median[3]	Middle range[3]	3.30 and under 3.60	3.60 – 3.90	3.90 – 4.20	4.20 – 4.50	4.50 – 4.80	4.80 – 5.10	5.10 – 5.40	5.40 – 5.70	5.70 – 6.00	6.00 – 6.40	6.40 – 6.80	6.80 – 7.20	7.20 – 7.60	7.60 – 8.00	8.00 – 8.40	8.40 – 8.80	8.80 – 9.20	9.20 – 9.60	9.60 – 10.00	10.00 – 10.40	10.40 – 10.80	10.80 – 11.20	11.20 and over
Truckdrivers	661	8.51	9.50	6.00-10.25	-	8	21	34	48	13	3	20	13	32	41	8	15	23	10	13	8	55	97	59	26	-	* 114
Manufacturing	186	8.61	8.78	7.15-10.25	-	3	-	-	-	2	3	-	8	2	26	5	4	18	10	13	6	5	6	59	16	-	-
Nonmanufacturing	475	8.47	9.50	5.15-10.74	-	5	21	34	48	11	-	20	5	30	15	3	11	5	-	-	2	50	91	-	10	-	114
Truckdrivers, light truck	55	6.31	6.00	5.75- 6.50	-	-	-	5	-	-	3	-	7	20	10	-	-	3	1	2	4	-	-	-	-	-	-
Truckdrivers, medium truck	235	8.37	7.50	4.50-12.71	-	8	6	29	36	-	-	-	1	1	25	4	9	4	1	-	3	5	6	11	13	-	73
Manufacturing	75	8.25	7.63	6.78-10.24	-	3	-	-	-	-	-	-	1	1	25	2	4	4	1	-	1	3	6	11	13	-	-
Nonmanufacturing	160	8.42	7.50	4.48-12.71	-	5	6	29	36	-	-	-	-	-	-	2	5	-	-	-	2	2	-	-	-	-	73
Truckdrivers, tractor-trailer	185	10.30	10.25	9.50-10.74	-	-	-	-	-	-	-	-	-	1	-	3	-	16	3	2	1	50	10	48	10	-	41
Nonmanufacturing	114	10.81	9.70	9.50-13.18	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	48	10	-	10	-	41
Shippers	75	7.29	6.99	6.37- 8.24	-	-	-	-	-	-	2	1	-	18	-	18	9	3	16	2	1	5	-	-	-	-	-
Manufacturing	66	7.30	7.15	6.89- 8.24	-	-	-	-	-	-	2	1	-	12	-	18	9	3	16	2	1	2	-	-	-	-	-
Receivers	93	7.15	7.13	5.96- 8.24	-	-	1	7	-	1	5	6	4	4	11	10	3	7	15	4	1	12	-	-	-	-	2
Manufacturing	48	6.97	6.79	6.17- 7.40	-	-	-	-	-	1	5	-	4	4	11	9	3	2	4	3	-	-	-	-	-	-	2
Nonmanufacturing	45	7.33	8.10	5.45- 9.20	-	-	1	7	-	-	-	6	-	-	-	1	-	5	11	1	1	12	-	-	-	-	-
Shippers and receivers	90	6.53	6.50	5.81- 6.94	-	-	-	-	-	4	14	4	5	10	22	20	-	4	-	3	-	-	4	-	-	-	-
Manufacturing	71	6.64	6.50	6.25- 6.92	-	-	-	-	-	4	8	-	4	8	22	16	-	3	-	2	-	-	4	-	-	-	-
Warehousemen	259	6.76	6.08	5.40- 8.99	9	10	12	8	7	1	13	45	-	41	13	8	4	4	6	9	5	4	58	-	-	2	-
Manufacturing	110	6.55	6.00	5.40- 7.33	-	-	-	-	-	-	8	40	-	16	8	8	4	4	6	4	-	4	4	-	-	2	-
Nonmanufacturing	149	6.92	6.08	4.40- 9.67	9	10	12	8	7	1	5	5	-	23	5	-	-	-	-	5	5	-	54	-	-	-	-
Order fillers	471	6.82	6.90	4.15- 9.15	13	62	49	1	10	15	40	13	-	7	22	15	4	5	2	-	210	3	-	-	-	-	-
Manufacturing	55	6.21	6.77	5.15- 7.18	-	4	6	-	4	-	-	3	-	2	17	10	4	5	-	-	-	-	-	-	-	-	-
Nonmanufacturing	416	6.90	9.15	4.15- 9.15	13	58	43	1	6	15	40	10	-	5	5	5	-	-	2	-	210	3	-	-	-	-	-
Shipping packers	205	6.35	6.52	4.25- 7.91	6	40	-	11	7	5	8	1	5	13	10	9	19	50	-	2	4	5	2	2	3	3	-
Manufacturing	175	6.80	7.57	5.14- 7.91	6	10	-	11	7	5	8	1	5	13	10	9	19	50	-	2	4	5	2	2	3	3	-
Material handling laborers	304	6.51	6.90	5.18- 7.34	2	8	6	-	30	14	31	9	11	18	22	65	23	30	16	6	1	1	11	-	-	-	-
Manufacturing	303	6.52	6.90	5.18- 7.36	2	8	6	-	30	14	30	9	11	18	22	65	23	30	16	6	1	1	11	-	-	-	-
Forklift operators	233	8.09	9.00	6.44- 9.30	-	-	2	3	7	6	2	4	1	27	26	1	5	22	10	-	17	90	-	-	-	-	10
Manufacturing	156	7.79	7.63	6.33- 9.46	-	-	-	-	6	4	2	4	1	27	26	1	5	22	2	-	16	30	-	-	-	-	10
Guards	200	5.29	4.95	3.35- 7.13	68	3	3	17	6	5	1	10	9	20	5	4	16	18	11	4	-	-	-	-	-	-	-
Manufacturing	99	6.55	7.13	5.00- 7.85	-	2	2	15	4	3	-	-	6	10	4	4	16	18	11	4	-	-	-	-	-	-	-
Guards I	161	4.79	4.25	3.35- 5.83	68	3	3	17	6	5	1	10	9	9	5	-	12	9	-	4	-	-	-	-	-	-	-
Manufacturing	70	6.04	6.25	4.33- 7.38	-	2	2	15	4	3	-	-	6	9	4	-	12	9	-	4	-	-	-	-	-	-	-
Janitors, porters, and cleaners	456	5.61	5.67	4.00- 6.63	29	63	47	24	16	28	6	33	29	26	54	9	17	7	38	7	17	2	-	4	-	-	-
Manufacturing	265	6.38	6.50	5.67- 7.35	2	12	12	12	4	12	2	30	22	21	54	8	10	4	38	-	17	1	-	4	-	-	-
Nonmanufacturing	191	4.55	4.00	3.62- 4.87	27	51	35	12	12	16	4	3	7	5	-	1	7	3	-	7	-	1	-	-	-	-	-

* Workers were distributed as follows. 6 at $12.00 to $12.40; 78 at $12.40 to $12.80; and 30 at $12.80 to $13.20.

Also see footnotes at end of tables.

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in Worcester, Mass., April 1982

Sex,[1] occupation, and industry division	Number of workers	Average (mean[2]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance carpenters	36	9.24
Manufacturing	35	9.20
Maintenance electricians	117	9.74
Manufacturing	116	9.73
Maintenance machinists	138	9.60
Manufacturing	138	9.60
Maintenance mechanics (machinery)	282	9.34
Manufacturing	266	9.20
Maintenance mechanics (motor vehicles)	110	10.49
Manufacturing	32	9.94
Nonmanufacturing	78	10.71
Transportation and utilities	65	11.02
Maintenance pipefitters	63	10.28
Manufacturing	63	10.28
Maintenance trades helpers	26	6.20
Machine-tool operators (toolroom)	52	8.18
Manufacturing	52	8.18
Tool and die makers	121	9.26
Manufacturing	121	9.26
Stationary engineers	30	9.91
Manufacturing	30	9.91
Boiler tenders	50	8.17
Manufacturing	50	8.17
Material movement and custodial occupations - men		
Truckdrivers	661	8.51
Manufacturing	186	8.61
Nonmanufacturing	475	8.47
Truckdrivers, light truck	55	6.31
Truckdrivers, medium truck	235	8.37
Manufacturing	75	8.25
Nonmanufacturing	160	8.42
Truckdrivers, tractor-trailer	185	10.30
Nonmanufacturing	114	10.81
Shippers	71	7.23
Manufacturing	62	7.23
Receivers	93	7.15
Manufacturing	48	6.97
Nonmanufacturing	45	7.33
Shippers and receivers	80	6.55
Manufacturing	64	6.68
Warehousemen	242	6.81
Manufacturing	109	6.52
Nonmanufacturing	133	7.04
Order fillers	365	7.49
Manufacturing	49	6.40
Shipping packers	117	7.15
Manufacturing	117	7.15
Material handling laborers	296	6.52
Manufacturing	295	6.53
Forklift operators	232	8.10
Manufacturing	156	7.79
Guards	198	5.26
Manufacturing	97	6.51
Guards I	159	4.75
Manufacturing	68	5.97
Janitors, porters, and cleaners	414	5.65
Manufacturing	253	6.43
Nonmanufacturing	161	4.43
Material movement and custodial occupations - women		
Order fillers	106	4.50
Shipping packers	88	5.30
Manufacturing	58	6.09
Janitors, porters, and cleaners	39	5.11
Nonmanufacturing	27	5.05

See footnotes at end of tables.

Table A-7. Indexes of earnings and percent increases for selected occupational groups, Worcester, Mass., selected periods

Period[4]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes (April 1977 = 100):														
April 1981	137.0	140.9	140.6	141.9	138.4	(*)	(*)	(*)	142.0	136.1	135.1	138.8	(*)	(*)
April 1982	148.8	153.7	150.3	156.4	149.7	(*)	(*)	(*)	156.9	148.3	145.0	149.1	(*)	(*)
Percent increases:														
May 1972 to May 1973	6.1	(*)	4.5	5.0	8.0	6.3	(*)	4.1	5.0	8.5	5.8	(*)	(*)	(*)
May 1973 to May 1974	7.0	(*)	8.3	8.2	5.9	(*)	(*)	8.5	8.3	5.2	6.9	(*)	(*)	(*)
May 1974 to May 1975	8.4	9.3	10.3	9.2	5.5	10.6	(*)	(*)	9.3	4.7	(*)	9.5	(*)	7.7
May 1975 to April 1976:														
11-month increase	7.6	5.6	9.6	6.2	8.1	7.8	(*)	(*)	6.0	6.6	7.4	4.5	(*)	11.2
Annual rate of increase	8.3	6.1	10.5	6.8	8.9	8.5	(*)	(*)	6.6	7.2	8.1	4.9	(*)	12.3
April 1976 to April 1977	6.8	5.9	6.1	7.9	6.9	6.5	(*)	(*)	7.8	7.3	7.1	6.1	(*)	(*)
April 1977 to April 1978	7.2	11.0	6.9	9.0	8.8	6.6	(*)	(*)	9.0	6.6	7.9	12.8	(*)	(*)
April 1978 to April 1979	7.1	6.1	8.5	8.1	8.0	7.8	(*)	9.7	8.3	8.4	6.5	5.5	(*)	(*)
April 1979 to April 1980	9.0	12.3	9.5	10.1	10.0	(*)	(*)	9.5	10.0	10.1	7.3	10.6	(*)	(*)
April 1980 to April 1981	9.5	6.5	10.7	9.4	7.0	(*)	(*)	10.8	9.4	6.9	9.6	5.5	(*)	(*)
April 1981 to April 1982	8.6	9.1	6.9	10.2	8.2	(*)	(*)	6.5	10.5	9.0	7.3	7.4	(*)	(*)

See footnotes at end of tables.

Table A-8. Pay relationships in establishments with paired office clerical occupations, Worcester, Mass., April 1982

Occupation for which earnings are compared	Occupation for which average earnings equal 100																			
	Secretaries					Transcribing machine typists	Typists	File clerks	Messengers	Switchboard operators	Switchboard operator-receptionists	Order clerks		Accounting clerks				Payroll clerks	Key entry operators	
	I	II	III	IV	V		I	I				I	II	I	II	III	IV		I	II
Secretaries I	**100**	91	(*)	77	(*)	(*)	(*)	(*)	(*)	(*)	103	(*)	(*)	(*)	(*)	(*)	(*)	100	(*)	(*)
Secretaries II	109	**100**	93	85	73	(*)	(*)	(*)	147	109	111	117	(*)	(*)	109	98	(*)	101	(*)	106
Secretaries III	(*)	108	**100**	87	78	(*)	142	166	161	111	111	124	(*)	(*)	110	103	93	103	120	108
Secretaries IV	130	117	114	**100**	(*)	(*)	(*)	(*)	157	121	128	140	(*)	167	134	112	(*)	115	127	121
Secretaries V	(*)	138	128	(*)	**100**	(*)	181	(*)	198	(*)	147	(*)	(*)	(*)	172	141	(*)	140	(*)	141
Transcribing-machine typists	(*)	(*)	(*)	(*)	(*)	**100**	(*)	(*)	(*)	103	(*)	(*)	(*)	(*)	112	(*)	71	84	(*)	92
Typists I	(*)	(*)	71	(*)	55	(*)	**100**	(*)	107	(*)	100	(*)	83	(*)	92	73	(*)	81	(*)	74
File clerks I	(*)	(*)	60	(*)	(*)	(*)	(*)	**100**	96	82	(*)	(*)	(*)	93	79	68	(*)	69	83	65
Messengers	(*)	68	62	64	51	(*)	94	105	**100**	82	(*)	(*)	(*)	(*)	83	72	(*)	73	89	70
Switchboard operators	(*)	92	90	83	(*)	97	(*)	122	121	**100**	(*)	(*)	(*)	(*)	100	92	(*)	89	100	93
Switchboard operator-receptionists	97	90	90	78	68	(*)	100	(*)	(*)	(*)	**100**	109	85	106	96	86	65	90	100	87
Order clerks I	(*)	85	80	72	(*)	(*)	(*)	(*)	(*)	(*)	92	**100**	(*)	(*)	91	93	69	85	(*)	99
Order clerks II	(*)	(*)	(*)	(*)	(*)	(*)	121	(*)	(*)	(*)	118	(*)	**100**	(*)	105	103	80	104	(*)	(*)
Accounting clerks I	(*)	(*)	(*)	60	(*)	(*)	(*)	108	(*)	(*)	94	(*)	(*)	**100**	(*)	(*)	(*)	(*)	91	(*)
Accounting clerks II	(*)	92	91	75	58	90	108	126	120	100	105	110	96	(*)	**100**	89	69	88	102	88
Accounting clerks III	(*)	102	97	89	71	(*)	137	146	138	109	116	107	97	(*)	112	**100**	(*)	100	118	105
Accounting clerks IV	(*)	(*)	108	(*)	(*)	140	(*)	(*)	(*)	(*)	154	146	126	(*)	145	(*)	**100**	120	(*)	127
Payroll clerks	100	99	97	87	71	119	124	145	137	112	111	118	96	(*)	114	100	84	**100**	123	102
Key entry operators I	(*)	(*)	83	79	(*)	(*)	(*)	121	113	100	100	(*)	(*)	109	98	84	(*)	81	**100**	80
Key entry operators II	(*)	94	93	82	71	109	136	154	143	107	115	101	(*)	(*)	113	95	79	98	126	**100**

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Secretaries II row, the 109 in the Secretaries I column indicates that Secretaries II average 109 percent of (or 9 percent more than) the earnings of Secretaries I.

See appendix A for method of computation.

Also see footnotes at end of tables.

Table A-9. Pay relationships in establishments with paired professional and technical occupations, Worcester, Mass., April 1982

Occupation for which earnings are compared	Occupation for which average earnings equal 100											
	Computer systems analysts (business)		Computer programmers (business)			Computer operators		Drafters		Electronics technicians		Registered industrial nurses
	II	III	I	II	III	I	II	III	IV	II	III	
Computer systems analysts (business) II	**100**	83	140	113	(*)	(*)	162	(*)	164	(*)	(*)	138
Computer systems analysts (business) III	120	**100**	166	135	112	207	162	(*)	169	(*)	(*)	161
Computer programmers (business) I	71	60	**100**	80	68	131	103	(*)	(*)	(*)	(*)	98
Computer programmers (business) II	89	74	124	**100**	82	162	128	(*)	(*)	(*)	(*)	119
Computer programmers (business) III	(*)	89	151	122	**100**	196	151	(*)	(*)	(*)	(*)	146
Computer operators I	(*)	48	76	62	51	**100**	79	(*)	(*)	(*)	(*)	75
Computer operators II	62	62	97	78	66	127	**100**	110	90	(*)	66	98
Drafters III	(*)	(*)	(*)	(*)	(*)	(*)	91	**100**	80	(*)	73	(*)
Drafters IV	61	59	(*)	(*)	(*)	(*)	111	125	**100**	(*)	(*)	107
Electronics technicians II	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	**100**	(*)	(*)
Electronics technicians III	(*)	(*)	(*)	(*)	(*)	(*)	150	137	(*)	(*)	**100**	(*)
Registered industrial nurses	72	62	102	84	68	133	102	(*)	93	(*)	(*)	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.

Also see footnotes at end of tables.

Table A-10. Pay relationships in establishments with paired maintenance, toolroom, and powerplant occupations, Worcester, Mass., April 1982

Occupation for which earnings are compared	Occupation for which average earnings equal 100										
	Carpenters	Electricians	Machinists	Mechanics		Pipefitters	Trades helpers	Machine-tool operators (toolroom)	Tool and die makers	Stationary engineers	Boiler tenders
				Machinery	Motor vehicles						
Maintenance carpenters	**100**	97	92	100	102	97	126	(*)	91	(*)	102
Maintenance electricians	103	**100**	100	103	106	99	133	110	94	94	106
Maintenance machinists	108	100	**100**	104	104	100	133	110	103	95	106
Maintenance mechanics (machinery)	100	97	96	**100**	102	97	127	109	93	92	104
Maintenance mechanics (motor vehicles)	98	94	96	98	**100**	95	(*)	(*)	94	95	104
Maintenance pipefitters	103	101	100	103	105	**100**	143	(*)	100	96	106
Maintenance trades helpers	79	75	75	79	(*)	70	**100**	(*)	(*)	(*)	79
Machine-tool operators (toolroom)	(*)	91	91	92	(*)	(*)	(*)	**100**	87	(*)	(*)
Tool and die makers	110	106	97	107	107	100	(*)	115	**100**	99	113
Stationary engineers	(*)	107	105	108	105	104	(*)	(*)	101	**100**	113
Boiler tenders	98	94	95	96	96	95	126	(*)	88	89	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-11. Pay relationships in establishments with paired material movement and custodial occupations, Worcester, Mass., April 1982

Occupation for which earnings are compared	Occupation for which average earnings equal 100												
	Truckdrivers			Shippers	Receivers	Shippers and receivers	Warehouse-men	Order fillers	Shipping packers	Material han-dling laborers	Forklift operators	Guards	Janitors, por-ters, and cleaners
	Light truck	Medium truck	Tractor-trailer									I	
Truckdrivers, light truck	**100**	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	110	(*)	119
Truckdrivers, medium truck	(*)	**100**	(*)	(*)	(*)	(*)	(*)	(*)	111	(*)	109	122	132
Truckdrivers, tractor-trailer	(*)	(*)	**100**	(*)	(*)	(*)	133	(*)	(*)	(*)	116	(*)	155
Shippers	(*)	(*)	(*)	**100**	104	(*)	99	(*)	150	(*)	91	(*)	114
Receivers	(*)	(*)	(*)	96	**100**	(*)	102	103	113	115	99	127	116
Shippers and receivers	(*)	(*)	(*)	(*)	(*)	**100**	101	(*)	143	(*)	103	(*)	118
Warehousemen	(*)	(*)	75	101	98	99	**100**	109	124	(*)	99	115	117
Order fillers	(*)	(*)	(*)	(*)	97	(*)	92	**100**	104	(*)	(*)	(*)	107
Shipping packers	(*)	90	(*)	67	88	70	81	96	**100**	105	92	111	110
Material handling laborers	(*)	(*)	(*)	(*)	87	(*)	(*)	(*)	95	**100**	(*)	98	111
Forklift operators	91	92	86	109	101	97	101	(*)	109	(*)	**100**	107	114
Guards I	(*)	82	(*)	(*)	79	(*)	87	(*)	90	103	93	**100**	113
Janitors, porters, and cleaners	84	76	65	87	86	85	85	93	91	90	88	88	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Footnotes

[1] Standard hours reflect the workweek for which employees receive their ragular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—half of the workers receive the same or more and half receive the same or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same or less than the lower of these rates and one-fourth earn the same or more than the higher rate.

[3] Earnings data relate only to workers whose sex identification was provided by the establishment.

[4] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[5] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

[6] Data do not meet publication criteria or data not available.

Appendix A. Scope and Method of Survey

In each of the 72 areas[1] currently surveyed, the Bureau obtains wages and related benefits data from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Small establishments—generally those with fewer than 50 employees—are excluded because they have few incumbents in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

Bureau field representatives obtain data by personal visits at 3-year intervals. In each of the two intervening years, information on employment and occupational earnings only is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, minus establishments which go out of business or are no longer within the industrial scope of the survey, is retained for the following two annual surveys. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification of all establishments within the scope of an individual area survey by industry and number of employees. From this stratified universe a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. An alternate of the same original probability is chosen in the same industry-size classification if data are not available from the original sample member. If no suitable substitute is available, additional weight is assigned to a sample member that is similar to the missing unit.

Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical; (3) maintenance, toolroom, and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B. Occupational codes and titles from the 1980 edition of the *Standard Occupational Classification Manual* are also presented in appendix B.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) data were insufficient to provide meaningful statistical results, or (2) there is possibility of disclosure of individual establishment data. Separate men's and women's earnings data are not presented when the number of workers not identified by sex is 20 percent or more of the men or women identified in an occupation. Earnings data not shown separately for industry divisions are included in data for all industries combined. Likewise, for occupations with more than one level, data are included in the overall classification when a subclassification is not shown or information to subclassify is not available.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Nonproduction bonuses are excluded, but cost-of-living allowances and incentive bonuses are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar. Most A-series tables provide distributions of workers by earnings; changes in the size of earnings intervals are indicated by heavy vertical lines.

These surveys measure the level of occupational earnings in an area at a particular time. Changes in an occupational average over time reflect, in addition to earnings changes, factors such as changes in proportions of workers employed by high- or low-wage firms, or high-wage workers advancing to better jobs and being replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increase wages during the year. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid incumbents are collected) and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Wage trends for selected occupational groups

Indexes in table A-7 measure wages at a given time, expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percent increases in table A-7 relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time span between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys.

The indexes and percent increases are based on changes in average hourly earnings of men and women in establishments reporting the trend jobs in both the current and previous year (matched establishments). The data are adjusted to remove the effects on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

Occupations used to compute wage trends are:

Office clerical

Secretaries
Stenographers, I and II
Typists, I and II
File clerks, I, II, and III
Messengers
Switchboard operators
Order clerks, I and II
Accounting clerks, I, II, III, and IV
Payroll clerks
Key entry operators, I and II

Electronic data processing

Computer systems analysts, I, II, and III
Computer programmers, I, II, and III
Computer operators, I, II, and III

Industrial nurses

Registered industrial nurses

Skilled maintenance

Carpenters
Electricians
Painters
Machinists
Mechanics (machinery)
Mechanics (motor vehicle)
Pipefitters
Tool and die makers

Unskilled plant

Janitors, porters, and cleaners
Material handling laborers

Percent changes for individual areas in the program are computed as follows:

1. Average earnings are computed for each occupation for the 2 years being compared. The averages are derived from earnings in those establishments which are in the survey both years; it is assumed that employment remains unchanged.

2. Each occupation is assigned a weight based on its proportionate employment in the occupational group.

3. These weights are used to compute group averages. Each occupation's average earnings (computed in step 1) are multiplied by its weight. The products are totaled to obtain a group average.

4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

The index is computed by adding 100 to the most recent percent increase, multiplying the total by the previous year's index number, and dividing the product by 100 to obtain the current index value.

For a more detailed description of the method used to compute these wage trends, see "Improving Area Wage Survey Indexes," *Monthly Labor Review*, January 1973, pp. 52-57.

Pay relationships in establishments

Tables A-8 through A-11 compare average pay of occupations in individual establishments. These comparisons, expressed as pay relatives (pay for one of the occupations equals 100), yield different results than comparisons of overall survey averages, such as those shown in tables A-1 through A-6. The latter reflect differences in contributions to the survey averages by establishments with disparate pay levels; the pay relative comparisons are not affected by such differences. The following procedures are used to compute relatives in tables A-8 through A-11:

1. Establishments employing workers in both of the paired occupations were identified.

2. Pay levels (averages) for the two occupations were weighted by the combined employment of both jobs to reflect each establishment's contribution to the totals used in this comparison.

3. The weighted pay levels of the two jobs were summed separately; each total was divided by the other and the quotients multiplied by 100 to produce the two pay relatives shown for each job pairing.

Establishment practices and supplementary wage provisions

Tabulations on selected establishment practices and supplementary wage provisions (B-series tables) are not presented in this bulletin. Information for these tabulations is collected at 3-year intervals. These tabulations on minimum entrance salaries for inexperienced office workers; shift differentials; scheduled weekly hours and days; paid holidays; paid vacations; and health, insurance, and pension plans are presented (in the B-series tables) in previous bulletins for this area.

[1] Includes 70 areas surveyed under the Bureau's regular program plus Norfolk-Virginia Beach-Portsmouth and Newport News-Hampton, Va.-N.C., and Poughkeepsie-Kingston-Newburgh, N.Y., which are surveyed under contract. In addition, the Bureau conducts more limited area studies in approximately 85 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

Appendix table 1. Establishments and workers within scope of survey and number studied in Worcester, Mass.,[1] April 1982

Industry division[2]	Minimum employment in establishments in scope of survey	Number of establishments		Workers in establishments		
		Within scope of survey[3]	Studied	Within scope of survey[4]		Studied
				Number	Percent	
All divisions	–	329	112	62,834	100	38,381
Manufacturing	50	159	52	33,815	54	21,229
Nonmanufacturing	–	170	60	29,019	46	17,152
Transportation, communication, and other public utilities[5]	50	11	9	4,229	7	4,015
Wholesale trade[6]	50	32	10	3,156	5	1,555
Retail trade[6]	50	80	23	11,767	19	6,939
Finance, insurance, and real estate[6]	50	22	7	6,864	11	3,292
Services[6 7]	50	25	11	3,003	5	1,351

[1] The Worcester, Mass. Standard Metropolitan Statistical Area, as defined by the Office of Management and Budget through February 1974, consists of the city of Worcester and the towns of Auburn, Berlin, Boylston, Brookfield, Charlton, East Brookfield, Grafton, Holden, Leicester, Millbury, Northborough, Northbridge, North Brookfield, Oxford, Paxton, Shrewsbury, Spencer, Sterling, Sutton, Upton, Uxbridge, Webster, Westborough, and West Boylston in Worcester County. The "workers within scope of survey" estimates provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other statistical series to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

[2] The 1972 edition of the *Standard Industrial Classification Manual* was used to classify establishments by industry division. All government operations are excluded from the scope of the survey.

[3] Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of nonmanufacturing companies are considered as one establishment when located within the same industry division.

[4] Includes all workers in all establishments with total employment (within the area) at or above the minimum limitation.

[5] Abbreviated to "transportation and utilities" in the A-series tables. Taxicabs and services incidental to water transportation are excluded.

[6] Separate data for this division are not presented in the A-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

[7] Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors; apprentices; and part-time, temporary, and probationary workers. Handicapped workers whose earnings are reduced because of their handicap are also excluded. Learners, beginners, and trainees, unless specifically included in the job description, are excluded.

The titles and 2, 3, or 4-digit codes below the job titles in this appendix are taken from the 1980 edition of the *Standard Occupational Classification Manual (SOC)*, issued by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

In general, the Bureau of Labor Statistics' occupational descriptions are much more specific than those found in the SOC manual. The BLS occupation, "Registered Industrial Nurse," for example, is limited to workers providing medical assistance and other related services (e.g., health education) to persons who are ill or become ill or suffer an injury in a factory or other establishment. The SOC occupation (code 29) includes a variety of registered nurses (e.g., school nurse, head nurse, general duty nurse, private nurse) that are excluded from the BLS description.

Thus, in comparing the results of this survey with other sources, factors such as differences in occupational definitions and survey scope should be taken into consideration.

Office

SECRETARY

(4622: Secretary)

Assigned as a personal secretary, normally to one individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor. Works fairly independently receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and understanding of the organization, programs, and procedures related to the work of the supervisor.

Exclusions. Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Positions which do not meet the "personal" secretary concept described above;

b. Stenographers not fully trained in secretarial-type duties;

c. Stenographers serving as office assistants to a group of professional, technical, or managerial persons;

d. Assistant-type positions which entail more difficult or more responsible technical, administrative, or supervisory duties which are not typical of secretarial work, e g., Administrative Assistant, or Executive Assistant;

e. Positions which do not fit any of the situations listed in the sections below titled "Level of Supervisor," e.g., secretary to the president of a company that employs, in all, over 5,000 persons;

f. Trainees.

Classification by level. Secretary jobs which meet the required characteristics are matched at one of five levels according to (a) the level of the secretary's supervisor within the company's organizational structure and, (b) the level of the secretary's responsibility. The tabulation following the explanations of these two factors indicates the level of the secretary for each combination of the factors.

Level of Secretary's Supervisor (LS)

LS-1

a. Secretary to the supervisor or head of a small organizational unit (e.g., fewer than about 25 or 30 persons); or
b. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer or assistant, skilled technician or expert. (NOTE: Many companies assign stenographers, rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.)

LS-2

a. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the definition for LS-3, but whose organizational unit normally numbers at least several dozen employees and is usually divided into organizational segments which are often, in turn, further subdivided. In some companies, this level includes a wide range of organizational echelons; in others, only one or two; or
b. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, fewer than 5,000 persons.

LS-3

a. Secretary to the chairman of the board or president of a company that employs, in all, fewer than 100 persons; or
b. Secretary to a corporate officer (other than chairman of the board or president) of a company that employs, in all, over 100 but fewer than 5,000 persons; or
c. Secretary to the head (immediately below the officer level) over either a major corporatewide functional activity (e.g., marketing, research, operations, industrial relations, etc.) or a major geographic or organizational segment (e.g., a regional headquarters; a major division) of a company that employs, in all, over 5,000 but fewer than 25,000 employees; or
d. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, over 5,000 persons; or
e. Secretary to the head of a large and important organizational segment (e.g., a middle management supervisor of an organizational segment often involving as many as several hundred persons) of a company that employs, in all, over 25,000 persons.

LS-4

a. Secretary to the chairman of the board or president of a company that employs, in all, over 100 but fewer than 5,000 persons; or
b. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, over 5,000 but fewer than 25,000 persons; or
c. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a company that employs, in all, over 25,000 persons.

NOTE: The term "corporate officer" used in the above LS definition refers to those officials who have a significant corporatewide policy-making role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all cases identify such positions. Vice presidents whose primary responsibility is to act personally on individual cases or transactions (e.g., approve or deny individual loan or credit actions; administer individual trust accounts; directly supervise a clerical staff) are not considered to be "corporate officers" for purposes of applying the definition.

Level of Secretary's Responsibility(LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at LR-1 or LR-2 described below according to their level of responsibility.

LR-1

Performs varied secretarial duties including or comparable to most of the following:

a. Answers telephones, greets personal callers, and opens incoming mail.
b. Answers telephone requests which have standard answers. May reply to requests by sending a form letter.
c. Reviews correspondence, memoranda, and reports prepared by others for the supervisor's signature to ensure procedural and typographical accuracy.
d. Maintains supervisor's calendar and makes appointments as instructed.
e. Types, takes and transcribes dictation, and files.

LR-2

Performs duties described under LR-1 and, *in addition* performs tasks requiring greater judgment, initiative, and knowledge of office functions including or comparable to most of the following:

a. Screens telephone and personal callers, determining which can be handled by the supervisor's subordinates or other offices.
b. Answers requests which require a detailed knowledge of office procedures or collection of information from files or other offices. *May* sign routine correspondence in own or supervisor's name.
c. Compiles or assists in compiling periodic reports on the basis of general instructions.
d. Schedules tentative appointments without prior clearance. Assembles necessary background material for scheduled meetings. Makes arrangements for meetings and conferences.

e. Explains supervisor's requirements to other employees in supervisor's unit. (Also types, takes dictation, and files.)

The following tabulation shows the level of the secretary for each LS and LR combination:

	LR-1	*LR-2*
LS-1	I	II
LS-2	II	III
LS-3	III	IV
LS-4	IV	V

STENOGRAPHER

(4623: Stenographer)

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings (if primary duty is transcribing from recordings, see Transcribing-Machine Typist). *NOTE*: This job is distinguished from that of a secretary in that a secretary normally works in a confidential relationship with only one manager or executive and performs more responsible and discretionary tasks as described in the secretary job definition.

Stenographer I

Dictation involves a normal routine vocabulary. May maintain files, keep simple records, or perform other relatively routine clerical tasks.

Stenographer II

Dictation involves a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research. May also set up and maintain files, keep records, etc., *OR*

Performs stenographic duties requiring significantly greater independence and responsibility than Stenographer I, as evidenced by the following: Work requires a high degree of stenographic speed and accuracy; a thorough working knowledge of general business and office procedure and of the specific business operations, organization, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining follow-up files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; and answering routine questions, etc.

TRANSCRIBING-MACHINE TYPIST

(4623: Stenographer)

Primary duty is to type copy of voice recorded dictation which does *not* involve varied technical or specialized vocabulary such as that used in legal briefs or reports on scientific research. May also type from written copy. May maintain files, keep simple records, or perform other relatively routine clerical tasks. (See Stenographer definition for workers involved with shorthand dictation.)

TYPIST

(4624: Typist)

Uses a typewriter to make copies of various materials or to make out bills after calculations have been made by another person. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Typist I

Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Typist II

Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

FILE CLERK

(4696: File clerk)

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions:

File Clerk I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

File Clerk II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

File Clerk III

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

MESSENGER

(4745: Messenger)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening and distributing mail, and other minor

clerical work. Exclude positions that require operation of a motor vehicle as a significant duty.

SWITCHBOARD OPERATOR

(4732: Telephone operator)

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, *may* also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

SWITCHBOARD OPERATOR-RECEPTIONIST

(4645: Receptionist)

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

ORDER CLERK

(4664: Order clerk)

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgment of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order. *Exclude workers paid on a commission basis or whose duties include any of the following:* Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Order Clerk I

Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Order Clerk II

Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

ACCOUNTING CLERK

(4712: Bookkeeper and accounting and auditing clerk)

Performs one or more accounting tasks such as posting to registers and ledgers; balancing and reconciling accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying the clerical accuracy of various types of reports, lists, calculations, postings, etc.; preparing journal vouchers; or making entries or adjustments to accounts.

Levels I and II require a basic knowledge of routine clerical methods and office practices and procedures as they relate to the clerical processing and recording of transactions and accounting information. Levels III and IV require a knowledge and understanding of the established and standardized bookkeeping and accounting procedures and techniques used in an accounting system, or a segment of an accounting system, where there are few variations in the types of transactions handled. In addition, some jobs at each level may require a basic knowledge and understanding of the terminology, codes, and processes used in an automated accounting system.

Accounting Clerk I

Performs very simple and routine accounting clerical operations, for example, recognizing and comparing easily identified numbers and codes on similar and repetitive accounting documents, verifying mathematical accuracy, and identifying discrepancies and bringing them to the supervisor's attention. Supervisor gives clear and detailed instructions for specific assignments. Employee refers to supervisor all matters not covered by instructions. Work is closely controlled and reviewed in detail for accuracy, adequacy, and adherence to instructions.

Accounting Clerk II

Performs one or more routine accounting clerical operations, such as: Examining, verifying, and correcting accounting transactions to ensure completeness and accuracy of data and proper identification of accounts, and checking that expenditures will not exceed obligations in specified accounts; totaling, balancing, and reconciling collection vouchers; posting data to transaction sheets where employee identifies proper accounts and items to be posted; and coding documents in accordance with a chart (listing) of accounts. Employee follows specific and detailed accounting procedures. Completed work is reviewed for accuracy and compliance with procedures.

Accounting Clerk III

Uses a knowledge of double entry bookkeeping in performing one or more of the following: Posts actions to journals, identifying subsidiary accounts affected and debit and credit entries to be made and assigning proper codes; reviews computer printouts against manually maintained journals, detecting and correcting erroneous postings, and preparing documents to adjust accounting classifications and other data; or reviews lists of transactions rejected by an automated system, determining reasons for rejections, and preparing necessary correcting material. On routine assignments, employee selects and applies established procedures and techniques. Detailed instructions are provided for difficult or unusual assignments. Completed work and methods used are reviewed for technical accuracy.

Accounting Clerk IV

Maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: Reviews invoices and statements (verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit, determining accounts involved, coding transactions, and processing material through data processing for application in the accounting system); and/or analyzes and reconciles computer printouts with operating unit reports (contacting units and researching causes of discrepancies, and taking action to ensure that accounts balance). Employee resolves problems in recurring assignments in accordance with previous training and experience. Supervisor provides suggestions for handling unusual or nonrecurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor or are controlled by mechanisms built into the accounting system.

NOTE: Excluded from level IV are positions responsible for maintaining either a general ledger or a general ledger in combination with subsidiary accounts.

PAYROLL CLERK

(4713: Payroll and timekeeping clerk)

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves *most of the following*: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

KEY ENTRY OPERATOR

(4793: Data entry keyer)

Operates keyboard-controlled data entry device such as keypunch machine or key-operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alphanumeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Key Entry Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Key Entry Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for level I.

NOTE: Excluded are operators above level II using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

Professional and Technical

COMPUTER SYSTEMS ANALYST, BUSINESS

(1712: Computer systems analyst)

Analyzes business problems to formulate procedures for solving them by use of electronic data processing equipment. Develops a complete description of all specifications needed to enable programmers to prepare required digital computer programs. Work involves *most of the following*: Analyzes subject-matter operations to be automated and identifies conditions and criteria required to achieve satisfactory results; specifies number and types of records, files, and documents to be used; outlines actions to be performed by personnel and computers in sufficient detail for presentation to management and for programming (typically this involves preparation of work and data flow charts); coordinates the development of test problems and participates in trial runs of new and revised systems; and recommends equipment changes to obtain more effective overall operations. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or systems analysts primarily concerned with scientific or engineering problems.

For wage study purposes, systems analysts are classified as follows:

Computer Systems Analyst I

Works under immediate supervision, carrying out analyses as assigned, usually of a single activity. Assignments are designed to develop and expand practical experience in the application of procedures and skills required for systems analysis work. For example, may assist a higher level systems analyst by preparing the detailed specifications required by programmers from information developed by the higher level analyst.

Computer Systems Analyst II

Works independently or under only general direction on problems that are relatively uncomplicated to analyze, plan, program, and operate. Problems are of limited complexity because sources of input data are homogeneous and the output data are closely related. (For example, develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, or maintaining inventory accounts in a manufacturing or wholesale establishment.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of the data processing systems to be applied. *OR*

Works on a segment of a complex data processing scheme or system, as described for level III. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system.

Computer Systems Analyst III

Works independently or under only general direction on complex problems involving all phases of systems analysis. Problems are complex because of diverse sources of input data and multiple-use requirements of output data. (For example, develops an integrated production scheduling, inventory control, cost analysis, and sales analysis record in which every item of each type is automatically processed through the full system of records and appropriate follow-up actions are initiated by the computer.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of new or revised systems of data processing operations. Makes recommendations, if needed, for approval of major systems installations or changes and for obtaining equipment.

May provide functional direction to lower level systems analysts who are assigned to assist.

COMPUTER PROGRAMMER, BUSINESS

(3971: Programmer, business)

Converts statements of business problems, typically prepared by a systems analyst, into a sequence of detailed instructions which are required to solve the problems by automatic data processing equipment. Working from charts or diagrams, the programmer develops the precise instructions which, when entered into the computer system in coded language, cause the manipulation of data to achieve desired results. Work involves *most of the following*: Applies knowledge of computer capabilities, mathematics, logic employed by computers, and particular subject matter involved to analyze charts and diagrams of the problem to be programmed; develops sequence of program steps; writes detailed flow charts to show order in which data will be processed; converts these charts to coded instructions for machine to follow; tests and corrects programs; prepares instructions for operating personnel during production run; analyzes, reviews, and alters programs to increase operating efficiency or adapt to new requirements; maintains records of program development and revisions. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or programmers primarily concerned with scientific and/or engineering problems.

For wage study purposes, programmers are classified as follows:

Computer Programmer I

Makes practical applications of programming practices and concepts usually learned in formal training courses. Assignments are designed to develop competence in the application of standard procedures to routine problems. Receives close supervision on new aspects of assignments; and work is reviewed to verify its accuracy and conformance with required procedures.

Computer Programmer II

Works independently or under only general direction on relatively simple programs, or on simple segments of complex programs. Programs (or segments) usually process information to produce data in two or three varied sequences or formats. Reports and listings are produced by refining, adapting, arraying, or making minor additions to or deletions from input data which are readily available. While numerous records may be processed, the data have been refined in prior actions so that the accuracy and sequencing of data can be tested by using a few routine checks. Typically, the program deals with routine recordkeeping operations. *OR*

Works on complex programs (as described for level III) under close direction of a higher level programmer or supervisor. May assist higher level programmer by independently performing less difficult tasks assigned, and performing more difficult tasks under fairly close direction.

May guide or instruct lower level programmers.

Computer Programmer III

Works independently or under only general direction on complex problems which require competence in all phases of programming concepts and practices. Working from diagrams and charts which identify the nature of desired results, major processing steps to be accomplished, and the relationships between various steps of the problem solving routine; plans the full range of programming actions needed to efficiently utilize the computer system in achieving desired end products.

At this level, programming is difficult because computer equipment must be organized to produce several interrelated but diverse products from numerous and diverse data elements. A wide variety and extensive number of internal processing actions must occur. This requires such actions as development of common operations which can be reused, establishment of linkage points between operations, adjustments to data when program requirements exceed computer storage capacity, and substantial manipulation and resequencing of data elements to form a highly integrated program.

May provide functional direction to lower level programmers who are assigned to assist.

COMPUTER OPERATOR

(4612: Computer operator)

In accordance with operating instructions, monitors and operates the control console of a digital computer to process data. Executes runs by either serial processing (processes one program at a time) or multiprocessing (processes two or more programs simultaneously). The following duties characterize the work of a computer operator:

a. Studies operating instructions to determine equipment setup needed.
b. Loads equipment with required items (tapes, cards, disks, paper, etc.).
c. Switches necessary auxiliary equipment into system.
d. Starts and operates computer.
e. Responds to operating and computer output instructions.
f. Reviews error messages and makes corrections during operation *or* refers problems.
g. Maintains operating record.

May test-run new or modified programs. May assist in modifying systems or programs. The scope of this definition includes trainees working to become fully qualified computer operators, fully qualified computer operators, and lead operators providing technical assistance to lower level operators. It excludes workers who monitor and operate remote terminals.

For wage study purposes, computer operators are classified as follows:

Computer Operator I

Work assignments are limited to established production runs (i.e., programs which present few operating problems). Assignments may consist primarily of on-the-job training (sometimes augmented by classroom instruction). When learning to run programs, the supervisor or a higher level operator provides detailed written or oral guidance to the operator before and during the run. After the operator has gained experience with a program, however, the operator works fairly independently in applying standard operating or corrective procedures in responding to computer output instructions or error conditions, but refers problems to a higher level operator or the supervisor when standard procedures fail.

Computer Operator II

In addition to established production runs, work assignments include runs involving new programs, applications, and procedures (i.e., situations which require the operator to adapt to a variety of problems). At this level, the operator has the training and experience to work fairly independently in carrying out most assignments. Assignments may require the operator to select from a variety of standard setup and operating procedures. In responding to computer output instructions or error conditions, applies standard operating or corrective procedures, but may deviate from standard procedures when standard procedures fail if deviation does not materially alter the computer unit's production plans. Refers the problem or aborts the program when procedures applied do not provide a solution. May guide lower level operators.

Computer Operator III

In addition to work assignments described for Computer operator II (see above) the work of Computer operator III involves at least one of the following:

a. Deviates from standard procedures to avoid the loss of information or to conserve computer time even though the procedures applied materially alter the computer unit's production plans.
b. Tests new programs, applications, and procedures.
c. Advises programmers and subject-matter experts on setup techniques.
d. Assists in (1) maintaining, modifying, and developing operating systems or programs; (2) developing operating instructions and techniques to cover problem situations; and/or (3) switching to emergency backup procedures (such assistance requires a working knowledge of program language, computer features, and software systems).

An operator at this level typically guides lower level operators.

PERIPHERAL EQUIPMENT OPERATOR

(4613: Peripheral equipment operator)

Operates peripheral equipment which directly supports digital computer operations. Such equipment is uniquely and specifically designed for computer applications, but need not be physically or electronically connected to a computer. Printers, plotters, card read/punches, tape readers, tape units or drives, disk units or drives, and data display units are examples of such equipment.

The following duties characterize the work of a peripheral equipment operator:

a. Loading printers and plotters with correct paper; adjusting controls for forms, thickness, tension, printing density, and location; and unloading hard copy.
b. Labeling tape reels, disks, or card decks.
c. Checking labels and mounting and dismounting designated tape reels or disks on specified units or drives.
d. Setting controls which regulate operation of the equipment.
e. Observing panel lights for warnings and error indications and taking appropriate action.
f. Examining tapes, cards, or other material for creases, tears, or other defects which could cause processing problems.

This classification excludes workers (1) who monitor and operate a control console (see Computer operator) or a remote terminal, or (2) whose duties are limited to operating decollaters, bursters, separators, or similar equipment.

COMPUTER DATA LIBRARIAN

(4696: File clerk)
(4754: Stock and inventory clerk)

Maintains library of media (tapes, disks, cards, cassettes) used for automatic data processing applications. The following or similar duties characterize the work of a computer data librarian: Classifying, cataloging, and storing media in accordance with a standardized system; upon proper requests, releasing media for processing; maintaining records of releases and returns; inspecting returned media for damage or excessive wear to determine whether or not they need replacing. May perform minor repairs to damaged tapes.

DRAFTER

(372: Drafting occupation)

Performs drafting work requiring knowledge and skill in drafting methods, procedures, and techniques. Prepares drawings of structures, mechanical and electrical equipment, piping and duct systems and other similar equipment, systems, and assemblies. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings. Drawings are used to communicate engineering ideas, designs, and information in support of engineering functions.

The following are excluded when they constitute the primary purpose of the job:

a. Design work requiring the technical knowledge, skill, and ability to conceive or originate designs;
b. Illustrating work requiring artistic ability;
c. Work involving the preparation of charts, diagrams, room arrangements, floor plans, etc.;
d. Cartographic work involving the preparation of maps or plats and related materials, and drawings of geological structures; and
e. Supervisory work involving the management of a drafting program or the supervision of drafters.

Positions are classified into levels on the basis of the following definitions.

Drafter I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot-checked during progress and reviewed upon completion.

NOTE: Exclude drafters performing elementary tasks while receiving training in the most basic drafting methods.

Drafter II

Prepares drawings of simple, easily visualized parts or equipment from sketches or marked-up prints. Selects appropriate templates and other equipment needed to complete assignments. Drawings fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy.

Drafter III

Prepares various drawings of parts and assemblies, including sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting techniques and a working knowledge of the terms and procedures of the industry. Familiar or recurring work is assigned in general terms; unfamiliar assignments include information on methods, procedures, sources of information, and precedents to be followed. Simple revisions to existing drawings may be assigned with a verbal explanation of the desired results; more complex revisions are produced from sketches which clearly depict the desired product.

Drafter IV

Prepares complete sets of complex drawings which include multiple views, detail drawings, and assembly drawings. Drawings include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to compute weights, load capacities, dimensions, quantities of materials, etc. Working from sketches and verbal information supplied by an engineer or designer, determines the most appropriate views, detail drawings, and supplementary information needed to complete assignments. Selects required information from precedents, manufacturers' catalogs, and technical guides. Independently resolves most of the problems encountered. Supervisor or designer may suggest methods of approach or provide advice on unusually difficult problems.

NOTE: Exclude drafters performing work of similar difficulty to that described at this level but who provide support for a variety of organizations which have widely differing functions or requirements.

Drafter V

Works closely with design originators, preparing drawings of unusual, complex or original designs which require a high degree of precision. Performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. Assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawings produced. Exercises independent judgment in selecting and interpreting data based on a knowledge of the design intent. Although working primarily as a drafter, may occasionally perform engineering design work in interpreting general designs prepared by others or in completing missing design details. May provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

ELECTRONICS TECHNICIAN

(3711: Electrical and electronic engineering technologist and technician)
(615: Electrical and electronic equipment repairer)

Works on various types of electronic equipment and related devices by performing one or a combination of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) electronic transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) digital and analog computers, and (c) industrial and medical measuring and controlling equipment.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Electronics Technician I

Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., multimeters, audio signal generators, tube testers, oscilloscopes). Is not required to be familiar with the interrelationships of circuits. This knowledge, however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot-checked, but is given detailed review when new or advanced assignments are involved.

Electronics Technician II

Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically *can* be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instructions, usually less complex than those used by the level III technician.

Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Electronics Technician III

Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically *cannot* be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include location and density of circuitry, electromagnetic radiation, isolating malfunctions, and frequent engineering changes. Work involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., dual trace oscilloscopes, Q-meters, deviation meters, pulse generators).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

REGISTERED INDUSTRIAL NURSE

(29: Registered nurse)

A registered nurse gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve a *combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Maintenance, Toolroom, and Powerplant

MAINTENANCE CARPENTER

(6422: Carpenter)

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves *most of the following*: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE ELECTRICIAN

(615: Electrical and electronic equipment repairer)
(6432: Electrician)

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE PAINTER

(6442: Painter, construction and maintenance)

Paints and redecorates walls, woodwork, and fixtures of an establishment. Work *involves the following*: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MACHINIST

(613: Industrial machinery repairer)

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves *most of the following*: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MECHANIC (MACHINERY)

(613: Industrial machinery repairer)

Repairs machinery or mechanical equipment of an establishment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

MAINTENANCE MECHANIC (MOTOR VEHICLE)

(611: Vehicle and mobile equipment mechanic and repairer)

Repairs automobiles, buses, motortrucks, and tractors of an establishment. Work involves *most of the following*: Examining automotive equipment to diagnose source of trouble; disassembling equipment and performing repairs that involve the use of such handtools as wrenches, gauges, drills, or specialized equipment in disassembling or fitting parts; replacing broken or defective parts from stock; grinding and adjusting valves; reassembling and installing the various assemblies in the vehicle and making necessary adjustments; and aligning wheels, adjusting brakes and lights, or tightening body bolts. In general, the work of the motor vehicle maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles in automobile repair shops.

MAINTENANCE PIPEFITTER

(645: Plumber, pipefitter, and steamfitter)

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves *most of the following*: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

MAINTENANCE SHEET-METAL WORKER

(6824: Sheet metal worker)

Fabricates, installs, and maintains in good repair the sheet-metal equipment and fixtures (such as machine guards, grease pans, shelves, lockers, tanks, ventilators, chutes, ducts, metal roofing) of an establishment. Work involves *most of the following*: Planning and laying out all types of sheet-metal maintenance work from blueprints, models, or other specifications; setting up and operating all available types of sheet-metal working machines; using a variety of handtools in cutting, bending, forming, shaping, fitting, and assembling; and installing sheet-metal articles as required. In general, the work of the maintenance sheet-metal worker requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MILLWRIGHT

(6178: Millwright)

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves *most of the following*: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE TRADES HELPER

(863: Helper; mechanic and repairer)

(864: Helper; construction trades)

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MACHINE-TOOL OPERATOR (TOOLROOM)

(6813: Machinist)

(731-2: Metalworking and plastic working machine setup operator)

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does *not* include machine-tool operators (toolroom) employed in tool and die jobbing shops.

TOOL AND DIE MAKER

(6811: Tool and die maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass).

Work typically involves: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete task; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts *to prescribed tolerances and allowances. In* general, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, this classification does *not* include tool and die makers who (1) are employed in tool and die jobbing shops or (2) produce forging dies (die sinkers).

STATIONARY ENGINEER

(6931: Stationary engineer)

Operates and maintains one or more systems which provide an establishment with such services as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water, or electricity. Duties involve: Observing and interpreting readings on gauges, meters, and charts which register various aspects of the system's operation; adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided; recording in logs various aspects of the system's operation; keeping the engines, machinery, and equipment of the system in good working order. May direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems.

The classification excludes head or chief engineers in establishments employing more than one engineer; workers required to be skilled in the repair of electronic control equipment; and workers in establishments producing electricity, steam, or heated or cooled air primarily for sale.

BOILER TENDER

(6931: Stationary engineer)

(696: Miscellaneous plant or system operator)

Tends one or more boilers to produce steam or high-temperature water for use in an establishment. Fires boiler. Observes and interprets readings on gauges, meters, and charts which register various aspects of boiler operation. Adjusts controls to insure safe and efficient boiler operation and to meet demands for steam or high-temperature water. May also do one or more of the following: Maintain a log in which various aspects of boiler operation are recorded; clean, oil, make minor repairs or assist in repairs to boilerroom equipment; and, following prescribed methods, treat boiler water with chemicals and analyze boiler water for such things as acidity, causticity, and alkalinity.

The classification excludes workers in establishments producing electricity, steam, or heated or cooled air primarily for sale.

Material Movement and Custodial

TRUCKDRIVER

(821: Motor vehicle operator)

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Salesroute and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver, light truck
(straight truck, under 1 1/2 tons, usually 4 wheels)
Truckdriver, medium truck
(straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)
Truckdriver, heavy truck
(straight truck, over 4 tons, usually 10 wheels)
Truckdriver, tractor-trailer

SHIPPER AND RECEIVER

(4753: Traffic, shipping and receiving clerk)

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

Shipper
Receiver
Shipper and receiver

WAREHOUSEMAN

(4754: Stock and inventory clerk)

As directed, performs a *variety* of *warehousing* duties which require an *understanding of the establishment's storage plan*. Work involves *most of the following*: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing,

stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Exclude workers whose *primary* duties involve shipping and receiving work (see Shipper and receiver and Shipping packer), order filling (see Order filler), or operating power trucks (see Power-truck operator).

ORDER FILLER

(4754: Stock and inventory clerk)

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

SHIPPING PACKER

(8761: Hand packer and packager)

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and *may involve one or more of the following*: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. *Packers who also make wooden boxes or crates are excluded.*

MATERIAL HANDLING LABORER

(8726: Freight, stock, and material mover, not elsewhere classified)

A worker employed in a warehouse, manufacturing plant, store, or other establishment whose duties involve *one or more of the following*: Loading and unloading various materials and merchandise on or from freight cars, trucks, or other transporting devices; unpacking, shelving, or placing materials or merchandise in proper storage location; and transporting materials or merchandise by handtruck, car, or wheelbarrow. *Longshore workers, who load and unload ships, are excluded.*

POWER-TRUCK OPERATOR

(8318: Industrial truck and tractor equipment operator)

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of powertruck, as follows:

Forklift operator
Power-truck operator (other than forklift)

GUARD

(5144: Guard and police, except public service)

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Guard I

Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

Guard II

Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

JANITOR, PORTER, OR CLEANER

(5244: Janitor and cleaner)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve *a combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. *Workers who specialize in window washing are excluded.*

Area Wage Survey Summaries

The following areas are surveyed periodically for use in administering the Service Contract Act (SCA) of 1965. Survey results are published in summaries which are available, at no cost, while supplies last from any of the BLS regional offices shown on the back cover.

Alaska (statewide)
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Ann Arbor, Mich.
Antelope Valley, Calif.
Asheville, N.C.
Augusta, Ga.-S.C.
Austin, Tex.
Bakersfield, Calif.
Battle Creek, Mich.
Beaumont-Port Arthur-Orange and Lake Charles, Tex.-La.
Biloxi-Gulfport and Pascagoula-Moss Point, Miss.
Binghamton, N.Y.
Birmingham, Ala.
Bloomington-Vincennes, Ind.
Bremerton-Shelton, Wash.
Cedar Rapids, Iowa
Champaign-Urbana-Rantoul, Ill.
Charleston-North Charleston-Walterboro, S.C.
Charlotte-Gastonia, N.C.
Clarksville-Hopkinsville, Tenn.-Ky.
Colorado Springs, Colo.
Columbia-Sumter, S.C.
Columbus, Ga.-Ala.
Columbus, Miss.
Connecticut (statewide)
Decatur, Ill.
Des Moines, Iowa
Dothan, Ala.
El Paso-Alamogordo-Las Cruces, Tex.-N. Mex.
Fayetteville, N.C.
Fort Lauderdale-Hollywood and West Palm Beach-Boca Raton, Fla.
Fort Wayne, Ind.
Frederick-Hagerstown-Chambersburg, Md.-Pa.
Gadsden and Anniston, Ala.
Goldsboro, N.C.
Grand Island-Hastings, Nebr.
Guam, Territory of
Harrisburg-Lebanon, Pa.
Knoxville, Tenn.
La Crosse-Sparta, Wis.
Las Vegas-Tonopah, Nev.
Lexington-Fayette, Ky.
Little Rock-North Little Rock, Ark.
Lorain-Elyria, Ohio
Macon, Ga.
Madison, Wis.
Maine (statewide)
Mansfield, Ohio
Melbourne-Titusville-Cocoa, Fla.
Meridian, Miss.
Mobile-Pensacola-Panama City, Ala.-Fla.
Montana (statewide)
Montgomery, Ala.
Nashville-Davidson, Tenn.
New Bern-Jacksonville, N.C.
Northwest Texas
Orlando, Fla.
Oxnard-Simi Valley-Ventura, Calif.
Peoria, Ill.
Phoenix, Ariz.
Portsmouth-Chillicothe-Gallipolis, Ohio
Puerto Rico
Riverside-San Bernardino-Ontario, Calif.
Salina, Kans.
Salinas-Seaside-Monterey, Calif.
Sandusky, Ohio
Santa Barbara-Santa Maria-Lompoc, Calif.
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Selma, Ala.
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Tulsa, Okla.
Vallejo-Fairfield-Napa, Calif.
Waco and Killeen-Temple, Tex.
West Virginia (statewide)
Western and Northern Massachusetts
Wichita Falls-Lawton-Altus, Tex.-Okla.
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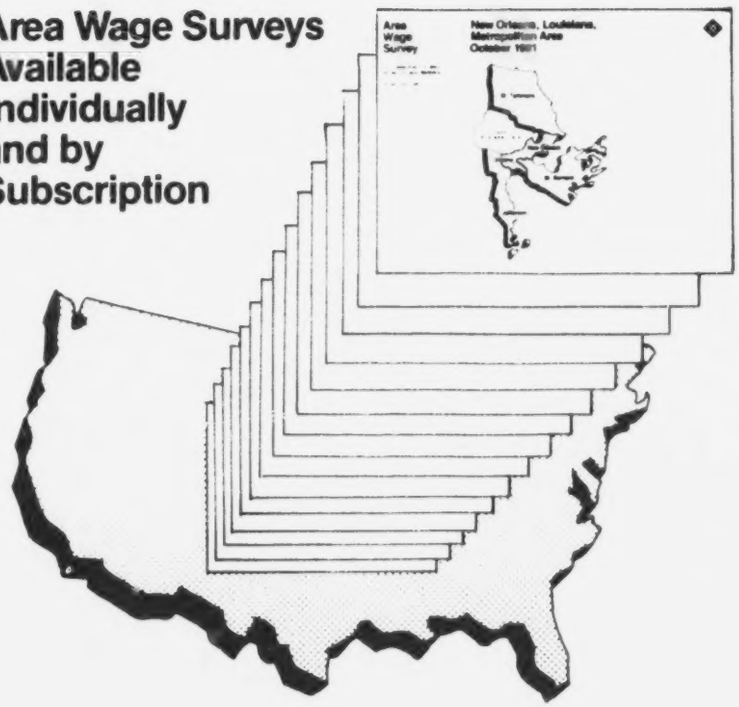

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